

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 3103

Roll No.

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**B. Tech. (Second Semester) Theory
Examination, 2010-11
ENVIRONMENT & ECOLOGY**

Time : 2 Hours]

[Total Marks : 50

Note : The question paper contains three Sections, Section-A, Section-B and Section-C with the weightage of 10, 15 and 25 marks respectively. Follow the instruction given in each Section.

Section-A

This question contains 10 questions of Multiple choice/Fill in the blanks/True-False, Matching the correct answer type questions. Attempt *all* parts of this Section.

1. Choose the correct answer from the multiple choices given below : $1 \times 3 = 3$

(a) The part of the earth and its atmosphere in which organisms live is :

(i) Biosphere

(ii) Biome

(iii) Biomass

(iv) Biota.

(b) Which of the following is an abiotic component of the ecosystem?

(i) Bacteria

(ii) Plants

(iii) Humus

(iv) Fungi.

(c) BOD measures :

(i) Industrial pollution

(ii) Air pollution

(iii) Water pollution

(iv) Dissolved oxygen needed by microbes to decompose organic waste.

Fill in the following blanks with suitable words :

$1 \times 3 = 3$

(d) Eutrofication of lakes is caused due to excessive presence of _____ and _____.

(e) In waterlogged soils the plant roots do not get adequate _____ for respiration.

(f) The ecological factors related to soil and substratum is called _____.

Indicate the following statements True or False :

$1 \times 2 = 2$

(g) Sludge left over in the biogas plant cannot be used as a fertilizer. (True/False)

(h) The major source of soil salinity is excessive irrigation. (True/False)

Match the following :

$\frac{1}{2} \times 4 = 2$

- (i) Overgrazing _ Kalpavriksha
(j) Blue baby syndrome _ Saprotrophs
(k) Chipko movement _ Soil erosion
(l) Detritivores _ Nitrates

Section-B

2. Attempt any *three* parts of the following : $5 \times 3 = 15$

- (a) Briefly describe the need of public awareness about the environment.
(b) Describe in brief the salient features, structures and functions of forest ecosystem.
(c) Explain the equitable use of resources for sustainable survival.
(d) Describe the effects of deforestation. Explain the measures taken for its remedy to conserve the forest wealth.
(e) What is geothermal energy? Discuss its merits and limitations.

Section-C

Attempt any *five* questions from the following :

$5 \times 5 = 25$

- 3 (a) What is meant by structure of an ecosystem? Explain the various components of an ecosystem. Discuss the functions of any one form of the ecosystem.
(b) "Flow of energy is unidirectional and continuous in an ecosystem." Comment.
4. (a) What is the impact of mining on the environment? Discuss necessity of conservation of mineral resources.
(b) Why the groundwater level is gradually depleting? How will you suggest preventing the groundwater exploitation from bulk users?
5. (a) What are the alternative energy resources? Differentiate between renewable and non-renewable natural resources.

- (b) Discuss in brief the effect of radiation from nuclear reactor on the environment with suitable examples.
6. (a) How the growth in population, economic development, excess land use, technological options and social preferences affect the environmental pollution?
- (b) Describe in brief the concept of 'Solid Waste Management' with the basic problems involved. Distinguish between the incineration and combustion methods of solid waste disposal.
7. (a) What is Ozone hole? What are the causes of Ozone hole formation? What are the effects of depletion of Ozone layer?
- (b) Discuss the salient features of :
- (i) Wildlife (Protection) Act, 1972
 - (ii) Forest (Conservation) Act, 1980.

8. Write short notes on the following :

- (i) Population Stabilization
- (ii) Water Conservation
- (iii) Greenhouse Effect
- (iv) Global Warming
- (v) Acid Rain.